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THE HUDSON BAY ROUTE By JOHN A. CORMIE

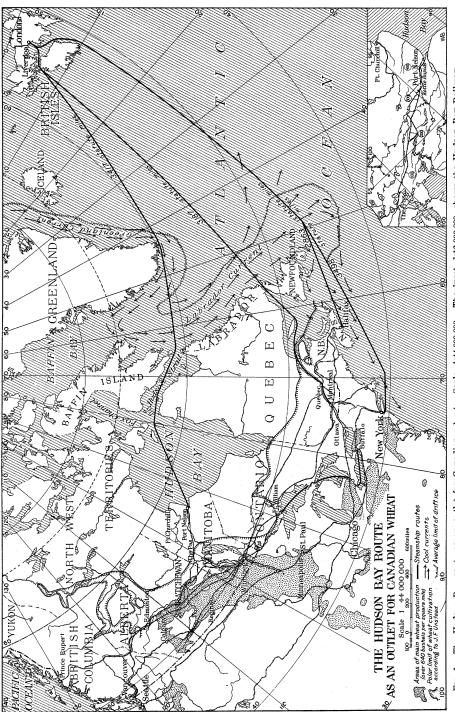
Although the Dominion of Canada is at war and has undertaken to send overseas five hundred thousand soldiers, over four hundred thousand of whom are already in uniform, and although she has manufactured vast quantities of munitions of war and has raised several hundred millions of dollars for the prosecution of the conflict, she has at the same time continued to work on a project which has great historical interest and which promises to be an important factor in the future development of the country. No more romantic undertaking can be found in the history of North America than the long and fruitless search for the Northwest Passage, a search which lured Henry Hudson from Europe for four summers in succession in the early years of the seventeenth century. After he had failed twice, his third attempt brought him to the mouth of the great river which bears his name, and the fourth carried him through the strait which posterity has called for him, out into the sea which Earl Grey called the Mediterranean of Canada and which may become the Baltic of North America. After sailing almost due south along the east shore of the bay, instead of the warm waters of the Pacific he found the marshes of James Bay, where a mutinous crew, having no vision of a new track for the world's commerce, turned him adrift in an open shallop and left him to his fate. The Gentlemen Adventurers of the Hudson's Bay Company, half a century later, followed Hudson's trail through the strait and set up their trading posts in a huge wilderness, which in these days is becoming an empire. Today the people of Canada are building the Hudson Bay Railway, a line over four hundred miles long, from The Pas, an ancient Hudson's Bay Company trading post on the Saskatchewan River, at the edge of the wheat fields of Saskatchewan and Alberta, to Port Nelson on the bay.

The first European colony in western Canada, sent out by Lord Selkirk slightly over one hundred years ago to found the Selkirk settlement on the banks of the Red River near where the city of Winnipeg now stands, sailed through Hudson Strait and Bay; and there is a well-defined opinion that the products of the western farms should follow the path of the first settlers and reach the European market by the short northern route. The steel of the new line is at the time of writing within ninety miles of the port. The greater part of the present summer will be occupied with the building of a large steel bridge over the Nelson River at Kettle Rapids, and the rails will be laid for at least half of the remaining distance before fall. Were it not for the difficulty in securing both men and supplies, trains would be running to tidewater before the end of the current year and the dream of a generation of western farmers would be realized.

When we take into account the toll which the long rail haul to the seaboard at Montreal or New York has levied on the grain growers of the West, we need not be surprised at the steady demand for the new route, which is shorter by one thousand miles than that by Montreal. been realized that Port Nelson is practically the same distance from Liverpool as is Montreal, and that a car of wheat on its way to Europe from Regina could be at the port by the time it would have reached Fort William by the other system. Thus the saving is the thousand miles between Fort William and Montreal by rail or the very much longer distance and the double handling of the lake route. From central Saskatchewan and northern Alberta and the new settlements which will undoubtedly be formed still farther north, as, for instance, the Peace River settlements which are already begun, the saving in mileage will be much greater. glance at the map will show that the benefits which will accrue to the farmers of western Canada with the development of this short road to Europe will be enjoyed by their neighbors in the Western States. grain country tributary to the Great Northern Railway is several hundred miles nearer Europe by way of Port Nelson than by way of New York.

If one of the results of the war should be the realization of the expectations held by many public men of the Dominion, there will be a very large and rapid increase in the population of the prairie provinces. Principal Oliver, a widely known educator of Saskatchewan, said in a recently published address, "Europe with her war debts, with crippled and disorganized industries, will not be the Europe that but yesterday flaunted the glories of its riches in the face of the whole world. If we had a flood of immigration when Clifford Sifton opened the sluice gates, now will come an avalanche." Lord Shaughnessy, of the Canadian Pacific Railway, has recently given his opinion that, though "bleeding with sacrifice and bending with every effort on behalf of the great Empire of which she is an integral part, Canada's biggest rôle in the play of nations is not now but in the future. Its population is not a fraction of what it should be, of what it is capable of becoming, and of what it will be after the war." Ex-President Taft's remark that "the country is still hardly scratched" is particularly true of the area lying immediately tributary to the Hudson Bay Railway. With the coming of more people, there will be, of course, greatly increased production.

The congestion in the grain elevators and on the railroads ever since the fall of 1915, when western Canada produced the record crop of over three hundred million bushels of wheat, is another condition that must be taken into account in connection with the Hudson Bay route project. With increased population and enlarged crop acreage, the record of 1915 will before many years be far below the average annual yield. The farmers of the West, to use their own phrase, are "getting into cattle." Mixed farming with rotation of crops is now a necessity in the older districts. The



Areas of wheat production based, for the United States, on the atlases of the Twelfth and Thirteenth Censuses of the United States, Washington, 1903 and 1914; for Canada, on the cereal maps of Alberta, Saskatchewan, and Manitoba, published by the Railway Lands Branch, Department of the Interior, Ottawa, 1915. Limit of wheat cultivation according to map accompanying a paper by J. F. Unstead in Geogr. Journ., Vol. 39, 1912. Fig. 1a—The Hudson Bay route as an outlet for Canadian wheat. Scale, 1:44,000,000. The inset, 1:16,000,000, shows the Hudson Bay Railway.

northern sections of the provinces, with their greater yields of natural hay and the protection afforded by larger forest areas, together with the fact that a short haul of two or three days will bring cattle to tidewater, will more quickly develop mixed farming.

The cost of transporting farm products is now so great that it is declared by agricultural authorities to be the chief cause of the relatively low returns to the industry. This disadvantage increases as settlement proceeds farther north and west. It burns the farmer's candle at both ends, giving him lower prices for his products and increasing the cost of all the commodities he purchases.

These three considerations, the reduction of one thousand miles of rail haul in the distance that now separates the granaries of the West from the Liverpool warerooms, with consequent lowering of the cost of transportation both ways, the prospect of large and rapid expansion in volume of production, and the demands made upon the railway facilities by the present agricultural output, make out the case for the Hudson Bay route, provided there be no insuperable obstacles to its construction and operation.

That there have been and are obstacles in the way of the project is beyond question, but it appears to be equally beyond doubt that they are not insuperable. Perhaps the chief hindrance to the advancement of the work in the past has been the attitude of the great trading companies, notably of the Hudson's Bay Company, to which was given in 1670, by King Charles of England, a monopoly in trade for all future time over all the northwestern part of North America, and whose interest it was to preserve their trading and trapping grounds from the incoming of the white settler. A thick cloud of darkness was accordingly spread over all their territory. This was broken first in Oregon, and the operations of the Adventurers of England have been gradually forced back by incoming settlement, until now the only territory left lies north of the Saskatchewan River. Reputed inhospitable climate and alleged barren soil have been urged as an objection to permanent settlement in districts where today there are thriving communities. Investigation has disclosed the fact that the climate of Manitoba, four hundred miles north of the international boundary, on account of the absence of windswept plains and because of the proximity to the waters of Hudson Bay, the temperature of which is slightly higher than that of Lake Superior, is more endurable than that of Winnipeg. Cultivated strawberries have been matured in The Pas, the southern terminus of the road, and all ordinary vegetables are grown with success at points along the line as far as Port Nelson. Happily the plains of western Canada are now known to be fit habitation for others than Indians and buffaloes, and, in time, the darkness will lift from the great areas north of the prairies.

A second difficulty encountered in building the road was the absence of authoritative maps of the district through which the road was to be

Fig. 1-Hudson Bay Railway survey party moving camp in winter.

built. Apart from a knowledge of the general courses of the Churchill, Nelson, and other larger rivers, there was no reliable information, and knowledge of the details of these river courses was vague. Along the line there are many lakes, but nothing was known of most of them until the surveyors went in to locate the railway, and knowledge of the general topography of the country was in an equally vague state. While the preliminary survey of the railway was difficult and costly, valuable additions have been made to our geographical knowledge of the Dominion.

The lack of settlements along the proposed line was a further difficulty. Apart from groups of Indians, widely separated, with an occasional trading post and mission, there was no settlement and no mode of access but the canoe in summer and the dog train in winter. The railway builders had to pierce this unsettled land, carrying along, with their building material, all supplies of food and fodder for an army of workmen and their animals. The road could not be built in sections, as was done with the recently built National Transcontinental Railway of Canada. It had to be pushed out mile upon mile from the south.

Perhaps the greatest of all the difficulties that lay in the path of the enterprise was the antagonism of influential eastern interests who have the ear of both political parties and have used their influence to prevent the beginning of the work and are today attempting to delay construction, some, indeed, advocating the entire abandonment of the project. A Toronto weekly with a considerable circulation remarked, when the call came for railway iron for the battlefields, that the Hudson Bay Railway might now justify its existence by tearing up its steel and shipping it to France. Some months ago the Toronto Globe said: "The opinion among competent judges is that the Hudson Bay Railway is the biggest sinkhole into which the money of the people of Canada has ever been put." This reminds one that the late Alexander Mackenzie objected to the building of the Canadian Pacific Railway on the ground that it would not pay for its axle grease. Happily for the Hudson Bay Railway, as well as for some other matters, the people of the West have reached a point of political influence where they can no longer be ignored, and opposition in other parts of the country cannot prevent the route from being put into operation. The Manitoba Free Press replied to the Globe by saying: "Malevolent eastern interests may delay but they cannot defeat this great national project, designed to free, to some extent, the western wealth producer from his eastern financial master."

The building of a harbor at the mouth of the Nelson River has not been easy. The drainage basin of the Nelson includes all of the Canadian prairies, the Red River valley in the United States, and Ontario up to a point seventy miles west of Fort William. This means that the Nelson is a very large river. It carries down great quantities of silt, which are deposited at the mouth of the channel, creating extensive sand bars and an

unstable river bottom which will require constant dredging. Although the port will be situated near the fifty-seventh parallel, the large body of water, meeting a tide which rises fifteen feet, keeps part of the mouth of the river permanently free of ice, and on part ice forms to a thickness of not more than ten inches. The controversy over the selection of the mouth of the Nelson as terminal in preference to that of the Churchill appears to be settled. The Churchill has the advantage of a ready-made rock-bound natural harbor of limited dimensions. Its disadvantages are that it necessitated the building of eighty more miles of railroad and would have required a fourth train division, and that over a heavy grade. In the profile maps of the proposed locations, the summit on the Nelson line occurs at Mile 51, and is 920 feet above sea level, or 70 feet above the level of the terminal at The Pas, and from that point down to the sea there is a uniformly level slope. The Churchill route leaves the Nelson route at Mile 102, slopes down to 575 feet but reaches 789 feet at Mile 298 and has several heavy grades between that and the The shipping season will be a little longer at Port Nelson than at Fort Churchill, and there is an unlimited area for a harbor. The cost of maintenance will be more than made up in the difference between the cost of operating a railway on the southern location and that of operating one on the bank of the Churchill River. An island is being built in the deep water at the mouth of the Nelson which will be reached by a steel bridge, and, while engineering mistakes appear to have been made, the experimental stage is past, the most difficult work is done, and the building of a substantial dock is now only a matter of time.1

Is Hudson Strait navigable? A railway can be built from the wheat-fields to the bay, the mouth of the Nelson can be converted into a commodious harbor which the largest ocean-going boats can enter, but can the strait be navigated for a period each year sufficiently long to justify the attempt to operate the northern route? On the answer to that question hinges the whole problem. Hudson Strait is a body of water about four hundred and fifty miles long, in width varying from fifty miles to two hundred miles, through which the ice-drifts from Fox Channel pass out into the Atlantic. Through this strait all traffic to and from Port Nelson must pass, and, although the port is six hundred miles from the western end of the channel, its importance as a sea port is absolutely determined by the length of time each year navigation can be safely carried on through the strait.

That the strait is navigable no one disputes. Who penetrated it first is not known, but it is known that Henry Hudson, with a poor little tub of a boat and a mutinous crew, sailed into the bay on August 4, 1610, and that the crew, after casting their master adrift the next summer, went out

¹ For views of Port Nelson and its pier see Fig. 8, p. 444, in the December, 1916, Geogr. Rev., and the illustrations accompanying E. W. Gage: The Hudson Bay Railroad, Scientific American, April 28, 1917, pp. 418-419.—Edit. Note.

through the strait and reached home that same year. The following year Admiral Button was sent out by the British Government to search for the lost adventurer. He reached the Nelson River, wintered there, named the port after his first mate, who died during the winter, and returned to England in 1613 to report finding no trace of Hudson. In 1615 William Baffin, whose name lives in Baffin Island, penetrated the strait and was in the open water of the bay on July 3. The Hudson's Bay Company boats have used this northern route to reach their fur posts for two centuries. If these early navigators in an unknown sea, with all the handicaps of little sailing vessels, could safely sail these northern waters, what may not be done with charts, lights, the extension of the wireless system from Port Nelson, a flotilla of ice breakers, and modern steam-driven and steel-clad boats? In 1915 thirty-six passages are known to have been made without mishap.

In regard to the length of time during each summer that navigation is possible, the opponents and friends of the project must content themselves with opinions. There is general agreement that for four months of the year, including August, September, and October, with parts of July and November, the strait can be safely sailed. The late Admiral Markham, who, with Commander Gordon, in 1886, made an investigation, the report² of which has never been superseded, said: "It is almost impossible, until more is known of the movements of the ice in the strait, to allot any fixed period. From the general information I have acquired from various sources more or less trustworthy, combined with my own experience, I am prone to believe that Hudson's Strait would be found navigable for at least four months every year, and probably often for five or six months. There will, I have no doubt, be many years when navigation can be carried on safely and surely from the first of June to the end of November." In 1907 an investigation was made by a select committee of the Senate of Canada, on "the navigability of Hudson Bay and Hudson Strait, as an alternative means of communication with the northwestern regions of Canada," since published in a report entitled "Canada's Fertile Northland," and evidence was taken from men competent to express opinions on the subject. Mr. A. P. Low, the then Director of the Geological Survey of Canada, said4: "The strait is navigable from about the middle of July until the first day of November anyway, and a couple of weeks might be

² Report of the Hudson's Bay Expedition of 1886, under the command of Lieut. A. R. Gordon, R.N., 131 pp., Dept. of Marine, Ottawa, 1886.

See also A. H. Markham: Hudson's Bay and Strait, Royal Geogr. Soc. Suppl. Papers, Vol. 2, 1889, pp. 617-660; and idem: Hudson's Bay and Hudson's Strait as a Navigable Channel, Proc. Roy. Geogr. Soc., Vol. 10, 1888, pp. 549-567 [an abstract of the previous item].

³ Canada's Fertile Northland, A Glimpse of the Enormous Resources of Part of the Unexplored Regions of the Dominion: Evidence Heard before a Select Committee of the Senate of Canada during the Parliamentary Session of 1906-7, and the Report Based Thereon, edited by Captain Ernest J. Chambers. 139 pp. and separate pocket of maps., [Dept. of the Interior], Ottawa, 1907 (reviewed in *Bull. Amer. Geogr. Soc.*, Vol. 40, 1908, pp. 758-759).

⁴ Ibid., p. 112.

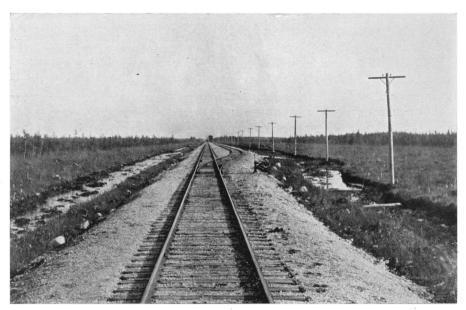


Fig. 2.

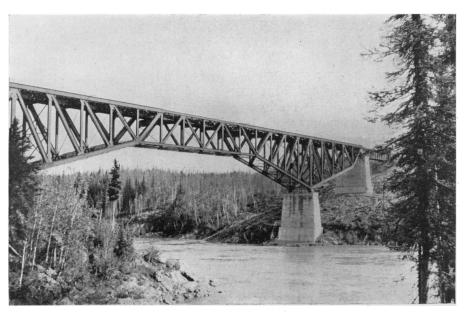


Fig. 3.

Fig. 2—Mile 45, Hudson Bay Railway, looking northeast.Fig. 3—Bridge over the Nelson River at Manitou Rapids (Mile 242).



Fig. 4.



Fig. 5.

Fig. 4—Western channel of White Mud Falls, Nelson River. Available horsepower of falls, 300,000. Fig. 5—Portaging canoe, Long Spruce Rapids, lower Nelson River. Note prairie lands.

added at the end, because the ice in Hudson Bay, the new ice, is of no consequence to a ship until it gets to be 15 or 18 inches thick, and not much ice forms before that date." Altogether Mr. Low considered the Hudson Bay route, when it was clear, an even clearer one than the St. Lawrence. There are at least two months when there is no trouble from ice at all. Dr. Robert Bell of the Geological Survey also appeared before the select committee and said⁵ that all his trips through the strait were between June 22 and about October 10, and he expressed the opinion that the strait is navigable between these two dates. Dr. Bell said⁶ he "did not know any more desirable piece of navigation in the world, excepting the middle of the ocean, and even then a common sailor, who could not take an astronomical observation, could sail through the straits with perfect safety. was what Henry Hudson's men did after putting him and part of the crew into an open boat and leaving them behind." He was further of the opinion that ocean-going vessels would be suitable for navigation in Hudson Bay and Strait, but in the winter it might be all the better if the ships were protected. Similar testimony in very imposing volume, some more favorable, some less so, is available. The success of Canadian ice-breakers at Archangel has helped to increase confidence in this northern route.

In estimating the value of this new line of communication, it must be borne in mind that, even at the present rate of production, the crop is never out of the country the year it is harvested. Mr. Gutelius, the superintendent of the Canadian Government Railways, estimated that it would take the railways two hundred days to move the crop of 1915. This estimate was unduly optimistic, for part of the 1915 crop was still in the country when the 1916 crop began to come upon the market. With so short a crop as that of 1916, it was estimated that on April 5, 1917, there were still approximately 25,000,000 bushels of wheat in the province of Alberta, 35,000,000 bushels in Saskatchewan, and 12,000,000 bushels in Manitoba. This grain will still be moving east at the time the Hudson Bay Railway opens. Abnormal shipping conditions created by the war must be taken into account, but, as population increases, a smaller proportion of every crop will be shipped out the year of its production. Taking the three western provinces, a comparison of the yearly production of wheat and oats in bushels is shown by means of the accompanying table, published in the Bankers Magazine (New York)7:

	Wheat	Oats	Wheat	Oats
1907	70,922,584	74,513,000	1912 196,000,000	224,500,000
1908	96,863,689	108,987,000	1913 188,878,000	208,308,000
1909	119,200,000	163,998,000	1914 134,445,000	150,474,000
1910	101,236,000	108,301,000	1915 370,000,000	305,680,000
1911	169,725,000	185,570,000	1916 160,000,000	232,409,000

Consideration must also be given to the fact that the country buys as well as sells, and that the payment of the heavy cost of rail haul to the

⁵ Op. cit., p. 117.

stations on the prairies is made by the purchaser. If farm products can be shipped out via Port Nelson and the strait, commodities can be brought in over the same route—must, indeed, be brought in if the project is to be a commercial success. Coal, for instance, as any one living in the Northwest knows, is an important part of the necessaries of life. Mr. M. J. Butler, formerly chief engineer of the Department of Railways and Canals of the Dominion Government, said in his report on this route: "I believe it is practical to lay down coal at Port Nelson from Nova Scotia at a cost not exceeding \$3.75 per ton. The rail haul to Saskatoon, as an average point of distribution, need not exceed \$4.00 per ton, making the cost \$7.75 per ton."

What of the country through which the road is being built? Is there a future for New Manitoba which would justify the construction of this line, apart from overseas shipping?

The oldest industry is, of course, that of the trapper. An army of trappers bring into The Pas, the commercial center of the district, an annual catch of fine fur to the value of \$250,000. The manager of the Hudson's Bay Company post at this point, in the days before the railway brought competition, has bought as many as 250,000 musk-rat pelts. All the fine furs, beaver, otter, mink, silver, black, red, and white foxes, are taken in large quantities, and at least two men have begun the industry of breeding silver foxes. The fishing industry, carried on during the winter, has reached considerable dimensions, the catch, consisting of whitefish, lake trout, and pickerel, for the season amounting now to about one thousand tons. Permission was given in 1916 to take sturgeon from the lakes. Owing probably to the clear, cold water of the northern lakes, these fish are not excelled. Considerable areas are covered with spruce, and a beginning of the lumber industry has been made by the Finger Lumber Company, which has established a plant at an outlay of one million dollars, with a daily cut of 200,000 feet of lumber. The amount of pulp-wood has not been estimated, but there are apparently vast quantities of such wood. During the past year much attention has been paid to the discovery of mineral-bearing rocks in the western flange of the "Great Canadian Shield" over which the railway runs. In northern Manitoba these rocks cover an area approximately 140 miles in length and 25 miles in width. Mile 86 on the railway gold has been discovered, and mining operations have been begun on three claims. The ore is gold-bearing quartz, and the first car recently shipped out, which was in the nature of a test, was treated in Trail, British Columbia, and the returns are said to be satisfactory. Farther east than the goldfields, at a point almost on the boundary between Manitoba and Saskatchewan, copper ore has been discovered in two bodies, one of which is very large. Operations have been begun on the smaller of these bodies, and during the past winter 3,600 tons of ore have been taken out. This ore contains 22 per cent of copper, and there are also iron

and some zinc. On the larger of these bodies of copper ore the work of drilling, with a view to determining its size, has been carried on for several months. It is not possible to say more about the mineral outlook of the country, for the reason that there has been little prospecting, but the rocks are of the same geological age as those at Cobalt and Sudbury in Ontario, and mining engineers have said that the future of the mining industry of New Manitoba is very bright indeed. Power from many rapids and waterfalls may play a large part in the development of this industry.

Is there an agricultural future for the district? For the first ninety miles of the railway line, the country is low and swampy and covered with Under the moss is heavy clay, carrying many glacial boulders. Nothing can be done with this land until it is drained, and it is doubtful if much of it can be drained. For fifty or sixty miles farther the country is rocky, and what soil there is, is too shallow to be of any use. Beyond this, the railway enters the so-called "clay belt," indicated on the map of the Geological Survey as containing about 10,000 square miles. Many opinions have been given as to the value of this land for agricultural purposes. Mr. J. B. Tyrrell, a witness before the Select Committee referred to above, expressed the opinion⁸ that there is "a magnificent stretch of country there and it extends westward along the Churchill. These lands north of Lake Winnipeg are clay lands, an extension of the same basin as the Manitoba clays." Mr. Tyrrell said he believed that that country, while a little harder to be settled, and not so productive to settlers who are looking for farms ready-made and cleared for them and ready for planting to wheat, will be as fine an agricultural tract of land as there is in the north-Mr. William McInnes, geologist of the Geological Survey, said9 that "after leaving Split Lake, ascending the river, this clay-covered country shows absolutely no boulders and no gravel. . . . There is absolutely nothing to interfere with the cultivation of the soil there. It is a country that has been burnt over. . . . It has been subject to repeated burns. At the present time, it is covered by a very open forest. Grasses grow fairly luxuriant." Mr. McInnes said he did not mean to say that all of that 10,000 square miles was good land, but the basin characterized by this deposit of clay has an area of about the size mentioned. During the summer of 1910 an inspection of timber was made by J. R. Dickson, Assistant Inspector of Dominion Forest Reserves, along the proposed line of the Hudson Bay Railway. He traversed part of the clay belt and reported 10 that it "contains upon the whole from 50 per cent to 75 per cent of arable land and probably has a good agricultural future. The soil is exactly similar to that around Cochrane in New Ontario, which yields such

⁸ Op. cit., p. 90. 9 Ibid., p. 65.

¹⁰ J. R. Dickson: Report on Timber Conditions, etc., along the Proposed Route of the Hudson Bay Railroad, Forestry Branch Bull. 17, 27 pp., Dept. of the Interior, Ottawa, 1911.

large returns under right treatment." In order to make a practical test of the climatic and soil conditions of this land, the Department of Agriculture of Manitoba, in the spring of the current year, opened up a small experimental plot, no returns of which have come to hand. While it is true that there are gardens wherever there are permanent residents, at Hudson Bay's Company posts and missions there is no farming, and it remains to be seen whether or not the greater proximity to tidewater will give these lands a value that will make them rivals to the more open lands on the prairies, of which there are still vast quantities unoccupied. Dr. John McDougall, quoted by Major Chambers in "The Unexploited West," says the district, "though wooded to a considerable degree, is a far more enticing agricultural proposition than that which faced the early settlers on the bush farms of Ontario and the eastern provinces fifty years ago." The day will undoubtedly come when a large agricultural community will be found in New Manitoba.

Apart from the possibilities of agricultural development in New Manitoba, created by the successful operation of the Hudson Bay Railway, there is a large territory in Saskatchewan lying north of the great river which has given its name to the province and a still larger area along the upper stretches of the Peace and Mackenzie Rivers, where development is retarded by the lack of easy communication with the world's markets. Mr. Tyrrell, speaking of means of communication with the Peace River country, said: "If the Hudson Bay route was opened, it would be very much better than that—shipping to the European markets via Pacific ports. It would be very much shorter and a great deal of time would be saved. The people of Athabaska would be as much on the front as they are at Fort William."

Taking a very much larger view of the problems of communication and examining the broad question of the transportation of the world's supplies, it may be held that Hudson did make the great discovery. He was searching for a short route from England to the rich markets of China, and he died somewhere along the shores of the bay in disappointment at the apparent failure of his quest. He may not have failed. From England to eastern Asia via Suez is a distance of about 16,000 miles. By way of New York and San Francisco it is about 11,000 and by way of Seattle or Vancouver about 10,000, but by way of Port Nelson and Prince Rupert it is less than 8,000, and, to use the language of the North, "the portage" from Port Nelson to Prince Rupert is much shorter than that on either of the other systems. Posterity may credit Henry Hudson with success.

Comparison of the cost of building the railway with that of other enterprises to which the Canadians have set their hand should be made. The

¹¹ The Unexploited West: A Compilation of All of the Authentic Information Available at the Present Time as to the Natural Resources of the Unexploited Regions of Northern Canada, by Major Ernest J. Chambers. 361 and xxxiv pp., [Dept. of the Interior], Ottawa, 1914. Reference on p. 37.

St. Lawrence channel has cost the Dominion Government about \$38,000,000. A harbor is being built at Toronto at an expenditure of \$20,000,000, and the reconstruction under way of the Welland ship canal will cost \$50,000,000. The estimated cost of the Hudson Bay Railway, including the terminals at The Pas and Port Nelson, is \$26,000,000. If for four months each year the transportation of the western crop can be expedited by having the distance to Europe reduced by one thousand miles, it is probable that the grain growers will insist that no obstacles be placed in the way of an early completion of the line. "Nothing but an actual test will ever prove which opinion about the northern route is right. The believers in the route await that test with absolute confidence."